

CLAIMS

WHAT IS CLAIMED IS:

1. A retractable cover for covering structures, the cover comprising:
a flexible material portion including thereon or adapted to include means
5 for attachment of at least one biasing means along the extendable length of the flexible
material portion, the at least one biasing means providing for retraction of the flexible
portion from an extended state to a rolled-up state.
2. The retractable cover as claimed in claim 1 wherein the biasing means is
10 of a length relative to at least a predetermined extendable length of the flexible material
portion.
3. The retractable cover as claimed in claim 2 wherein the biasing means is a
spring.
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4. The retractable cover as claimed in claim 3 wherein the biasing means is a
constant force spring.
5. The retractable cover as claimed in claim 3 wherein the biasing means is a
20 variable force spring.

6. The retractable cover as claimed in claim 5 wherein, where the biasing means is a variable force spring, the retraction force of the spring can be selected from a range of about 0.25 kg to about at least 50 kg as determined by one or more of at least the weight of the flexible material portion, the dimensions of the flexible portion, and the structure to be covered.

7. The retractable cover as claimed in claim 4 wherein the biasing means is restrained permanently to the flexible material portion via use of restraining means selected from the group consisting of:

10 a) an adhesive; and

 b) welding means.

8. The retractable cover as claimed in claim 4 wherein the biasing means is provided in a removable relation to the flexible cover via use of restraining means selected from the group consisting of:

15 a) a hook-and-pile system attached both to the flexible material portion and to the biasing means in a complementary manner;

 b) a full sheath capable of enclosing a substantial portion of the biasing means;

20 c) a partial sheath capable of providing retaining means to one or more designated portions of the biasing means; and

 d) attachment apparatus, including screws, bayonet fittings, domes, and buttons.

9. The retractable cover as claimed in claim 8 wherein the flexible material forms the sheath.

5 10. The retractable cover as claimed in claim 9 wherein the sheath is sewn on to the flexible material.

11. The retractable cover as claimed in claim 9 wherein the sheath is configured to allow access to the biasing means.

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12. The retractable cover as claimed in claim 11 wherein the sheath includes a zipper.

13. The retractable cover as claimed in claim 12 wherein either or both the
15 flexible material portion and the structure includes means for securing the cover relative to the structure with which the cover is used.

14. The retractable cover as claimed in claim 1 wherein the retractable cover includes at least one affixing means for removably restraining the cover in an extended
20 form to cover a surface of the structure with which the cover is used.

15. The retractable cover as claimed in claim 14 wherein the affixing means enables the cover to be restrained at any position along its extendable length to effect a partially or completely rolled-up cover as required.

5 16. The retractable cover as claimed in claim 15 wherein the affixing means is at least one zipper.

17. The retractable cover as claimed in claim 16 wherein each zipper is double sided.

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18. The retractable cover as claimed in claim 14 wherein the affixing means is a hook-and-pile fastener complementarily located on both the cover and the structure with which the cover is used.

15 19. The retractable cover as claimed in claim 14 wherein the affixing means is magnetic means complementarily located on both the cover and the structure with which the cover is used.

20. A structure incorporating a retractable cover, as claimed in claim 1.

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21. A method of adapting an existing cover for covering an opening or enclosure, the method comprising the step of:

incorporating the biasing means to the existing cover.

22. A method of manufacturing a retractable cover for covering structures, the cover including a flexible material portion, the flexible material portion including thereon, or adapted to include means for attachment of, at least one biasing means along the extendable length of the flexible material portion, the biasing means providing for retraction of the flexible portion from an extended state to a rolled up state, the method comprising the steps of:

- a) determining the dimensions of the structure with which the cover is intended to be used and preparing the flexible material portion to the predetermined dimensions, and including therewith; and
- b) biasing means arranged relative to a substantial portion of the extendable length of the flexible portion in a permanent or removable arrangement by use of restraining means, the restraining means being added to or being a portion of the flexible portion.

23. A method of varying retraction of a retractable cover for covering structures, the cover including a flexible material portion, the flexible material portion including thereon, or adapted to include means for attachment of, at least one biasing means along the extendable length of the flexible material portion, the biasing means providing for retraction of the flexible portion from an extended state to a rolled up state, the method comprising the steps of:

- a) determining one or more of at least the weight of the flexible material portion, the dimensions of the flexible portion, structure to be covered, the retraction force of the biasing means; and

b) providing additional biasing means.

24. The method of claim 23, wherein the step of providing additional biasing means includes the step of:

5 b1) replacing the biasing means with a new biasing means of greater force.

25. The method of claim 23, wherein the step of providing additional biasing means includes the step of:

10 b2) adding additional biasing means to the flexible material portion to effect a combined retraction force in accordance with predetermined retraction force requirements.